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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/808,884	03/14/2001	Eric John Hewitt	AHA-02101	5252

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HAVERSTOCK & OWENS LLP
162 NORTH WOLFE ROAD
SUNNYVALE, CA 94086

EXAMINER	
TORRES, JOSEPH D	

ART UNIT	PAPER NUMBER
2133	

DATE MAILED: 03/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/808,884	HEWITT ET AL.	
	Examiner	Art Unit	
	Joseph D. Torres	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 November 2004*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 11-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-7,11-40* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-7, drawn to **A method** of encoding a block of data, the method comprising the steps of: performing a parity calculation along a hyper diagonal in the block, wherein a parity result for the parity calculation is generated; and **adding the parity result to the block of data**, classified in class 714, subclass 776.

II. Claims 11-22, drawn to **A method** of encoding a block of data the method comprising the steps of: **receiving a row of the block and *immediately* outputting the row**; encoding the information bits in the row, wherein a first set of encoded data is generated according to a first encoding scheme; outputting the first set of encoded data; encoding the information bits in a column according to a second encoding scheme, **wherein a second set of encoded data is generated and *iteratively* updated *according to the information bits in the row***; hyper-diagonally encoding the information bits in the block according to a parity encoding scheme, wherein a hyper set of encoded data is generated according to the information bits in the row and column and the first and second sets of encoded data; outputting the updated second set of encoded data after all the information bits and all subsequent first sets of encoded data are

outputted; and g. outputting the hyper set of encoded data, classified in class 714, subclass 757.

III. Claims 23-29, drawn to **An encoder** comprising: a datapath module for encoding a block of data having a plurality of systematic block code codewords, wherein each codeword includes a plurality of information bits and a plurality of error correction bits, wherein **the datapath module hyper-diagonally encodes a string of the block code codewords and performs a parity calculation on the string, whereby a parity result for each string is generated**, classified in class 714, subclass 758.

IV. Claims 30-35 and 37-40, drawn to **An encoder** for encoding a block of data comprising: **a first encoder module** for encoding the information bits in a row of the block, wherein the first encoder generates a set of encoded row bits; **a second encoder module** for encoding the information bits in a column of the block, wherein the second encoder module generates a set of encoded column bits according to the information bits in each row, **wherein the second encoder updates the encoded column bits for each row encoded by the first encoder**; and **a hyper encoder module** for hyper-diagonally **encoding all information bits and *all encoded bits* diagonally along the block**, wherein the hyper encoder generates a set of parity results, whereby each parity result corresponds to a diagonal of the encoded bits, classified in class 714, subclass 755.

V. Claim 36, drawn to **An encoder** for encoding a block of data, the encoder comprising: means for receiving the block of data, wherein **the information bits received are *immediately* output by an output means**; first means for encoding each row according to a first encoding scheme, wherein the first means generates a row encoding result for each row encoded by the first encoding scheme; **second means** for encoding each column according to a second encoding scheme, wherein the second means generates a column encoding result for each column encoded by the second encoded scheme, **wherein the column encoding result is *iteratively updated* for each row *encoded by the first means***; and means for hyper-diagonally encoding along the encoded block of data, the means for hyper-diagonally encoding generating a hyper parity result for each corresponding diagonal in the encoded block of data, classified in class 714, subclass 757.

The inventions are distinct, each from the other because of the following reasons:

Inventions Group I and Group II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention Group I has separate utility such as for a packaging method for encoded data comprising the step of: adding a parity result to the block of data. In the instant case, invention Group II has separate utility such as for parallel encoding of column and row information bits. See MPEP § 806.05(d).

Inventions Group I and Group III are related as process (Group I) and apparatus (Group III) for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the process (Group I) can be practiced in a packetizer for appending checkbits to data bits. In this case, the apparatus (Group III) can be used to extract a string of data from a block of data to hypercode the string and to also generate parity for the string.

Inventions Group I and Group IV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the process (Group I) can be practiced in a packetizer for appending checkbits to data bits. In this case, the apparatus (Group IV) is used for serially generating encoded bits whereby subsequent encoders depend on data generated by previous encoder (for example; the second encoder module requires row encoded bits form the row encoder).

Inventions Group I and Group V are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the process (Group I) can be practiced in a

packetizer for appending checkbits to data bits. In this case, the apparatus (Group V) provides a method whereby information bits are immediately output.

Inventions Group II and Group III are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the process (Group II) can be practiced by an encoder for parallel encoding of column and row information bits. In this case, the apparatus (Group III) can be used to extract a string of data from a block of data to hypercode the string and to also generate parity for the string.

Inventions Group II and Group IV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the process (Group II) can be practiced by an encoder for parallel encoding of column and row information bits. In this case, the apparatus (Group IV) is used for serially generating encoded bits whereby subsequent encoders depend on data generated by previous encoder (for example; the second encoder module requires row encoded bits form the row encoder).

Inventions Group II and Group V are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the

apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the process (Group II) can be practiced by an encoder for parallel encoding of column and row information bits. In this case, the apparatus (Group V) provides a method whereby information bits are immediately output.

Inventions Groups III, IV and V are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention Group III has separate utility such as for extracting a string of data from a block of data to hypercode the string and to also generate parity for the string. In the instant case, invention Group IV has separate utility such as for serially generating encoded bits whereby subsequent encoders depend on data generated by previous encoder (for example; the second encoder module requires row encoded bits form the row encoder). In the instant case, invention Group V has separate utility such as for a method whereby information bits are immediately output. See MPEP § 806.05(d).

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Groups I-V are mutually exclusive, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

A telephone call was made to Thomas Haverstock on 3/11/2005 to request an oral election to the above restriction requirement, but did not result in an election being made.

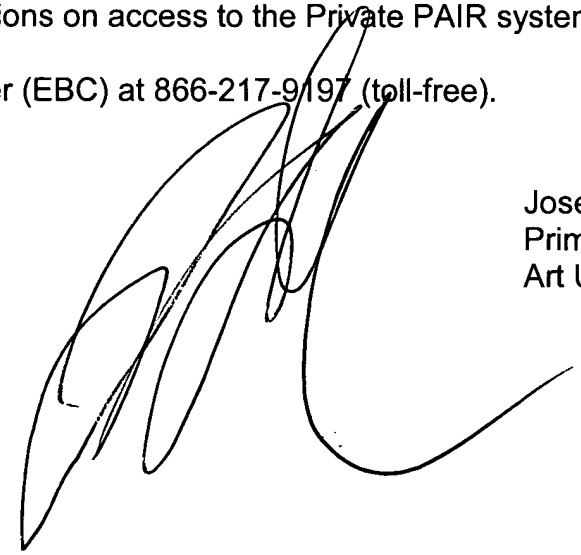
Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Torres whose telephone number is (571) 272-3829. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joseph D. Torres, PhD
Primary Examiner
Art Unit 2133